METHOD FOR PROVIDING A SHORTCUT TO SHIPPING INFORMATION

CROSS REFERENCE TO RELATED APPLICATIONS

This application is a continuation-in-part of U.S. Patent Application number 10/722,231, entitled METHOD FOR PROVIDING A SHORTCUT TO SHIPPING INFORMATION, filed November 25, 2003, which is incorporated herein by reference in its entirety.

Technical Field

The present invention relates to package delivery, and in particular to status inquiries regarding delivery of shipments.

Background

People who use online merchants or delivery companies with online access usually have at least two possible methods to track and confirm delivery of packages or other items. According to the first method, users must remember a unique - and usually difficult to remember - tracking identifier. Such a tracking code is normally a string of letters and/or numbers that have no easily remembered meaning. According to a second alternative method, the user must go through a time-consuming authentication process in order to access the tracking identifier, or in order to directly access the tracking information. Plainly, either of these two methods has drawbacks.

If the shipment was initiated in conjunction with a purchase, then the user can authenticate to the merchant web site where the user made the purchase, but less time spent authenticating normally means less security for the customer. Following a lengthy authentication, the user would then see a merchant's or shipping carrier's display of the tracking identifier as a hypertext shortcut directly to the tracking information, or a display of the tracking information itself, or the user would see a query for even more information if the merchant has not automatically provided that information to the carrier. Thus, the existing art has not yet achieved a satisfactory alternative to memorization of long tracking identifiers.

Summary of the Invention

The present application describes an illustrative process that is as convenient as activating a script or executable file, in order for a user to check and verify shipping status. For instance, at the time of a transaction, the company (i.e. a merchant, carrier, or related business) will formulate a small html page that is capable of redirecting the user to the carrier's web site with the query and tracking identifier already entered. The user is then given the option to save this small html page on the user's desktop or other local storage area. From then on, the user just double clicks that html file, and current shipping information is displayed without any need for the user to memorize a tracking identifier or spend time authenticating.

An illustrative embodiment of the application has at least two advantages. First, it eliminates the need of users remembering long and arcane tracking identifiers. Second, it eliminates the need of users taking time to provide authentication information in order to log into secure web sites for the purpose of checking a shipping status.

An illustrative embodiment of the application is well-suited to a situation in which a user is tracking more than one shipment, either using a single carrier or a plurality of carriers. In the latter case, at least some shipping data is aggregated so that a user is able to quickly and easily access shipping status from two or more carriers.

According to a preferred embodiment of this invention, when a user clicks on a desktop icon or other hyperlink, the user is not only provided delivery status, but is also provided with the opportunity to have delivery status updated. For example, a carrier will already typically update delivery status when the package arrives at a discrete set of points A, B, C, D, and E. The illustrative embodiment of the application allows the user to find out where the item is between, for example, points A and B or between points B and C. This is accomplished, for example, by having GPS units on vehicles. Advantageously, the user is provided one free access to the system, and then has to pay for further clicks in order to get this deluxe pinpoint tracking information within a certain time of clicking the icon or hyperlink. In contrast, there is normally no need to charge extra for arrival status at the discrete checkpoints A, B, C, D, and E.

Brief Description of the Drawings

Figure 1 is a flow chart showing how a user can obtain checkpoint shipping status or pinpoint shipping status.

Figure 2 is a flow chart showing how a user obtains shipping status, and does so iteratively for additional shipments.

Figure 3 shows a system for the user to click on desktop symbols to obtain pinpoint or checkpoint shipping status.

Figure 4 shows a system for obtaining pinpoint shipping status from different carriers, and for obtaining checkpoint shipping status aggregated for all carriers.

Figure 5 is a flow chart showing how a user obtains shipping status, and does so iteratively for additional shipments according to another embodiment of the present application.

Detailed Description

An illustrative embodiment of the present invention begins when the user completes his or her transaction in a normal way at a web site, and then chooses a shipping option. Then, the web site processes the transaction, creates a small html file, and sends that file to the user who will save it locally. The content of the html file will look like the following:

```
<html>
  <head>
    <meta http-equiv="Content-Type" content="text/html">
     <meta http-equiv="refresh"
content="0;url=http://www.shipco.com/tracking/track.asp?no='ASB7F126UHS'">
  </head>
  <body>
  </body>
</html>
```

The user then saves this html file locally in a convenient place. When the user wants to check the status of a package, the user will double click on the html file. The html file redirects the user appropriately to the tracking page showing the status of their package.

Extensions and more advanced embodiments can be implemented. For example, to be expandable, a web site can combine all the current valid tracking identifiers each time a user ships another package. The user is then asked to replace his html file with a new one, which would contain all previous tracking numbers (minus any that are not relevant anymore) plus the user's new tracking identifier. This is feasible if all the packages are shipped from the same carrier. If all items are not with the same carrier, then a company could create another web page that buffers all the requests to the multiple carriers, so the redirect actually sends all the tracking identifiers to a web page which is scripted to ascertain which carrier goes with which identifier, and returns the results all on one page. This extension could be implemented as a web service.

Another extension is to have a small client application that goes out and polls the carriers' sites regarding the tracking information. Then, when a new item is shipped, the user can add it to his list of currently tracked items, via a file-type association download that automatically puts it in the client application, or via a manual addition. Alternatively, item information is downloaded as an html file in the way described above, but the small client application goes through a directory and scans all the html files in the directory for tracking identifiers.

The file that redirects the end user can be implemented in various scripting languages, including markup languages such as html. Moreover, the company web site can actually continue to buffer the user from the carriers, by redirecting them to their web sites and submitting the multiple queries for tracking on behalf of the user. Because of this, the company can list the shipping status of all current packages. Another alternate approach is for the file to redirect using Hypertext Transfer Protocol Secure ("https") to provide a higher level of confidentiality. In an additional alternative embodiment, the web site only provides the option of downloading the shortcut file to the end user, instead of sending it directly.

Some more advanced implementations of the present invention use a heavy client on a user's computer. A "listener" process wakes up when the user receives a tracking identifier in a web page, or when a user goes to a carrier's web site. Note that most carriers have a unique structure to their tracking identifier, which potentially facilitates recognition of incoming tracking identifiers. After waking up, the heavy client program continues to run as a background process, and polls the carriers' web sites so as to notify the user with a message when a package reaches certain user-configurable conditions.

This type of implementation can, for example, poll at 15-minute intervals after the status has been changed (to "out for delivery" for instance). A message would then pop up onscreen when a GPS unit in a delivery vehicle returns a coordinate within a set distance from the user's house. That way the user will know that a delivery will be arriving imminently, and will be able to make plans accordingly.

Of course, all of the foregoing Internet or network interaction can be done over a Secure Sockets Layer (SSL) or other cryptographically secured channel giving the end user confidentiality of their shipping queries. This would also ensure that thieves will not be able to easily intercept the pinpoint location of a delivery vehicle. The down side to having a secure connection is that accessing it can be time-consuming, and the embodiments of the present application addresses this problem by streamlining the user access.

The illustrative embodiments of the present application can be more fully appreciated by reference to the accompanying figures. As seen in FIG 1, a user is provided **100** with a shipping pinpoint symbol and a shipping checkpoint symbol. These may be icons on the user's desktop, or they may be located in a computer file folder. The user (e.g. a customer) decides **105** whether checkpoint status will be adequate.

In other words, the user decides whether he or she needs more precise pinpoint information about shipment status, instead of merely finding out which checkpoint was the most recent one that the shipment passed through. If checkpoint status is sufficient, then the user clicks **110** on the checkpoint symbol. Then it is

determined **112** if the user is already connected to the network (e.g. the Internet), preferably via a secure connection. If not, then such a connection is established **115**. When the connection is in place, a checkpoint inquiry is sent **117** to the shipping carrier, and the carrier provides a checkpoint location to the user. Subsequently, the user is able to repeat this procedure.

If, at step **105**, the user decides that more precise shipping status is desired, then the user clicks **121** on the shipment pinpoint symbol which may be available on the user's desktop or in a folder in the user's computer, or additionally may be available at a carrier's web site that has been accessed by previously having clicked **110** on the shipment checkpoint symbol. Assuming that the pinpoint symbol is at a user desktop or user folder, it is then determined **123** whether the user is connected to the network, and if not then that connection is established **125**, so that a pinpoint inquiry is sent **127** to the carrier. In response to that inquiry, the carrier ascertains **129** a pinpoint location of the shipment between checkpoints. This may be done, for example, by communicating with a delivery truck or airplane which is equipped with a global positioning satellite (GPS) device, and then the carrier can plot the GPS coordinates on a map and present **131** the map to the user. If **132** the user is provided with the pinpoint location after a delay, then the user can be compensated **133** for the delay, for example by providing the user with a monetary credit, or by providing the user with a free pinpoint click in the future.

Turning now to FIG 2, this flow chart shows a related embodiment of the present application. A user **200** performs a transaction at a web site, such as purchasing a product, which typically includes choosing **205** a shipping method. Then the web site creates or edits **210** a small file that includes markup language, such as hypertext markup language (HTML) or extensible markup language (XML), so that the file will contain a link or links to shipment tracking information. This file is then saved locally **215** at a user device. Subsequently, the user checks the status of package shipment by activating or opening **220** the saved html file. This file redirects (i.e. routes) the user's computer to the carrier's web site, where the tracking information is plugged in so that the current information is displayed **225** on the user machine. If the user has requested pinpoint status instead of checkpoint status, then the user will pay

230 a fee. The user is able to perform these steps iteratively, if the user decides **235** to start an additional shipment.

FIG 3 illustrates a system **300** according to the present invention. The user's computer **310** displays a shipment pinpoint symbol **315** and a shipment checkpoint symbol **320**. These symbols may be displayed at the user's desktop or in a user folder as an icon or other clickable item, and they may additionally be displayed at a carrier web site. In any event, the user will click on the checkpoint symbol **320** to find out the checkpoint or checkpoints at which the presence of the shipment has been detected. Or, the user will click on the pinpoint symbol **315** to actually cause the carrier to find out where the shipment (e.g. a letter, package, or any other item that can be delivered) is located between checkpoints. The carrier does this by using a shipment location tracker device **322** for contacting a delivery vehicle **324**, so that the delivery vehicle will report its position between checkpoint A and checkpoint B. The delivery vehicle **324** will detect its position, for example, using a GPS unit. The shipment location tracker device **322** may be a wireless phone, radio, or other communication device. Regardless of which symbol the user clicks, the inquiry will be sent to the carrier via a network such as the Internet **325**, and the reply from the carrier will also be sent that way as well.

FIG 4 illustrates a system **400** according to the present invention, for tracking shipments that are being shipped by carriers. The user device **410** displays a pinpoint symbol **412** for a first shipment, and a pinpoint symbol **415** for a second shipment. Thus, the user can decide which pinpoint symbol to click, depending upon which shipment's precise position is desired. However, if the user merely would like to obtain a rougher idea of where all of the shipments are located in an aggregated display, the user clicks on an all shipments checkpoint symbol. As discussed, these inquiries and responses are sent via a network such as the Internet **420** which in turn is in contact with the carrier **425** for the first shipment, and with the carrier **430** for the second shipment. The first carrier can be the same as the second carrier, or they can be different, and in either case the present invention provides a handy and convenient way for the user to make shipment status inquiries.

In the context of the present invention, pinpoint status means any shipment status that provides greater accuracy than checkpoint status. The checkpoint status comprises information as to whether a shipment has reached or been scanned at one or more discrete points. The carrier may be any kind of delivery company, or company that includes delivery service, or form of transportation. The shipment carried by the carrier is any physical letter, package, paper, envelope, carton, or the like. The type of shipment may be overnight, same day, priority, express, or other designation that identifies the manner in which the shipment is carried.

Turning now to FIG 5, this flow chart shows another embodiment of the present application. A user **500** performs a transaction at a web site, such as purchasing a product, which typically includes choosing **505** a shipping method. Then the web site creates or edits **510** a small file that includes markup language, such as hypertext markup language (HTML) or extensible markup language (XML), so that the file will contain a link or links to shipment tracking information. In step 512, the website provides the user an opportunity to remove packages from the list. For example, if there are 5 unrelated package deliveries being tracked and one of the packages is received, the user may remove that package from the list. The revised tracking file is then saved locally **515** at a user device. Subsequently, the user checks the status of package shipment by activating or opening **520** the saved html file. This file redirects (i.e. routes) the user's computer to the carrier's web site, where the tracking information is plugged in so that the current information is displayed **525** on the user machine. If the user has requested pinpoint status instead of checkpoint status, then the user will pay **530** a fee. The user is able to perform these steps iteratively, if the user decides **535** to start an additional shipment.

Another alternative includes a small client application that goes out and polls the carriers' sites regarding tracking information. Thus when the carrier site determines that a package has been delivered and/or accepted, the carrier site may signal the local application to remove the completed package delivery information from the tracking html file.

Various changes may be made in the above illustrative embodiments without departing from the scope of the invention, as will be understood by those skilled in the

art. It is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense. The invention disclosed herein can be implemented by a variety of combinations of hardware and software, and those skilled in the art will understand that those implementations are derivable from the invention as disclosed herein.